

Western Digital Technologies, Inc.  
Serial Number: 09/676,405



Patent  
Docket: K35A0458

In re Application of: Butler  
Serial No.: 09/676,405  
Filed: 09/29/00  
Title: A DISK DRIVE COMPRISING A COVER  
SHAPED TO IMPROVE RADIAL AND  
AXIAL SHROUDING

Group Art Unit: 2651  
Examiner: Castro, A. A.

**RECEIVED**  
NOV 10 2004  
Technology Center 2600

DECLARATION UNDER 37 CFR 1.131

THE COMMISSIONER FOR PATENTS  
ALEXANDRIA, VA 22313

1. I, Walter W. Butler, am the applicant in the above-identified patent application and, from January 1993 to date, have been employed by Western Digital to whom said application is assigned.

2. Long prior to October 12, 1999, I completed the invention described and claimed in the above-identified patent application in the United States by actually reducing the invention to practice at the San Jose, California facility of my employer Western Digital.

3. Long prior to October 12, 1999, I prepared engineering drawings describing the invention, copies of which are attached as Exhibit A. The engineering drawings show the elements of the disk drive cover disclosed and claimed in the above-identified patent application.

4. Long prior to October 12, 1999, I emailed the engineering drawings shown in Exhibit A to Moulding Industries located in Singapore with the intent of having Moulding Industries manufacture a prototype of the disk drive cover. The engineering drawings were presented to Jim Boeckner, an employee of Moulding Industries who was involved in the actual manufacture of the prototype of the disk drive cover. The

prototype of the disk drive cover was completed long prior to October 12, 1999, and a photograph of the actual prototype is attached as Exhibit B.

5. Long prior to October 12, 1999, I tested the prototype of the disk drive cover on a conventional disk drive manufactured by Western Digital shown in Exhibit B and my test results confirmed the beneficial aspects of the shrouding elements integrated into the disk drive cover. My test results are attached as Exhibit C.

6. The dates have been removed from the copies of the documents in the attached Exhibits, but are visible on the originals.

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

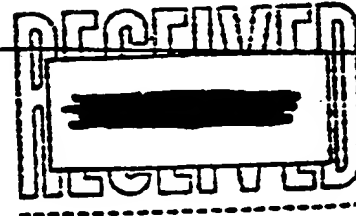


Walter W. Butler

27- Oct -04

Date

Walter W Butler, 01:41 PM [REDACTED], Proposed 3.5" WD Cover



Return-Path: <walter.w.butler@wdc.com>  
From: Walter W Butler <walter.w.butler@wdc.com>  
To: "'tooling@cyberway.com.sg'" <tooling@cyberway.com.sg>  
Subject: Proposed 3.5" WD Cover  
Date: [REDACTED] 13:41:30 -0700

Hello Ong Teck Kuen,

My name is Walt Butler with WDSJ, and have been trying to send a 3D solid design file to David Chua for about 3 days.

We are looking at the possibility of using a insert molded laminate cover on 3.5" drives (high volume). The first possibility would be on Flagstaff (next summer in volume), and definately on Alpine (following winter for volume). The attached file is in VDS solid designer. This is a first pass design, and what we are looking for is vendor feedback. What can be done to help out with manufacturability.

The cover is composed of laminate stamping (either .027" or .030" thick), and 10% glass filled polycarbonate or ABS, and for the spindle motor attachment a 3M whirl damper.

As for the stamper either Oaktech or Seksun would be a good choice. Edmun Mok of Oaktech was here this week, and has been informed of this new project. If possible, lets try for a phone conference on your Tuesday morning @ 9:00am; let's have you please call me at (408) 363-5504

Best Regards,

Walt

Attachment Converted: "C:\EUDORA\ATTACH\cov\_wwc.pkg"



Chris - FI  
David Chua  
Serena Wang  
Tc Woo  
Johnny Heng  
Robin Wan  
Chia Ming Ghee

MI

FROM: JIM BOECKNER



EXHIBIT A

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PREPARED

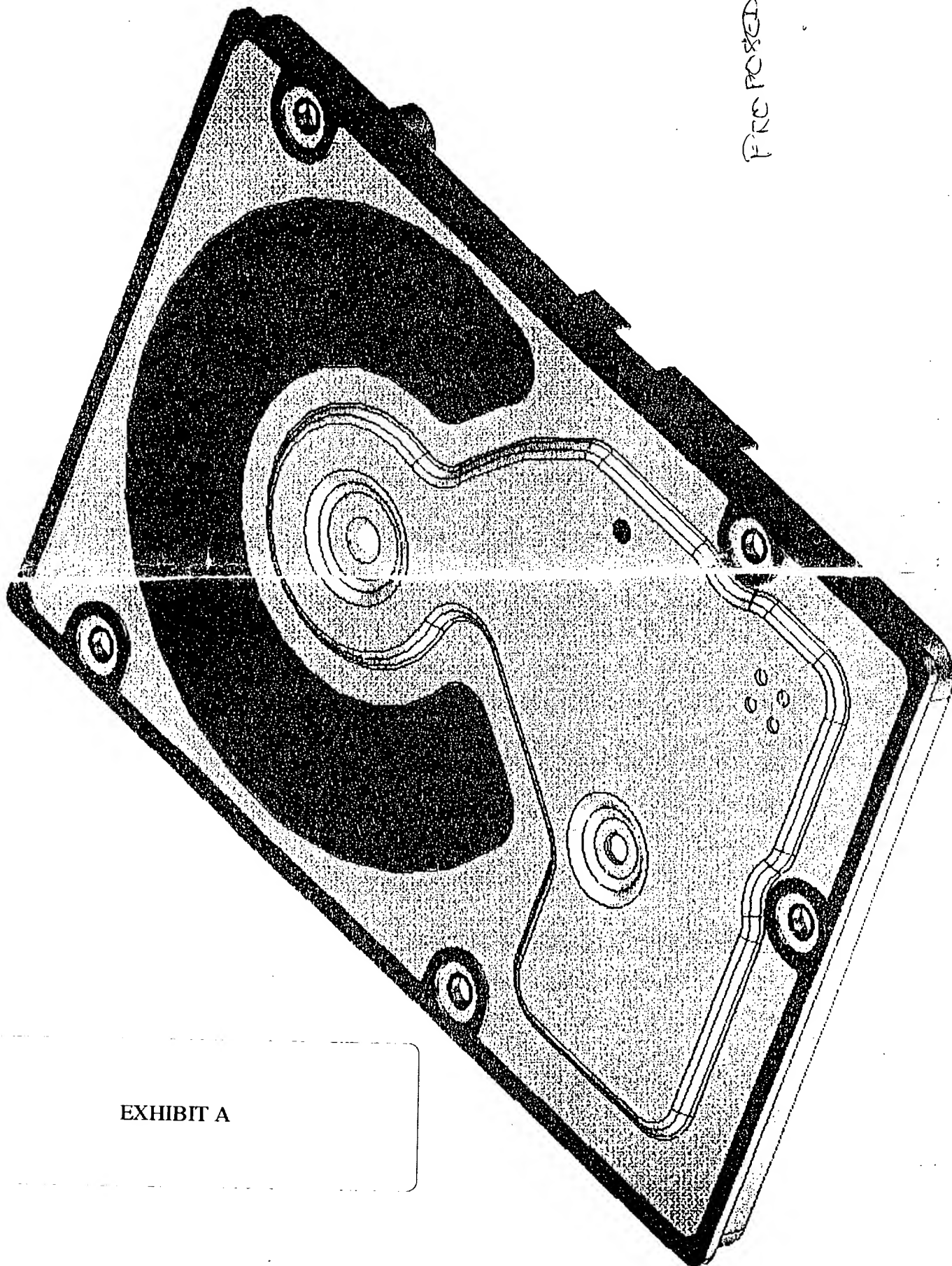


EXHIBIT A

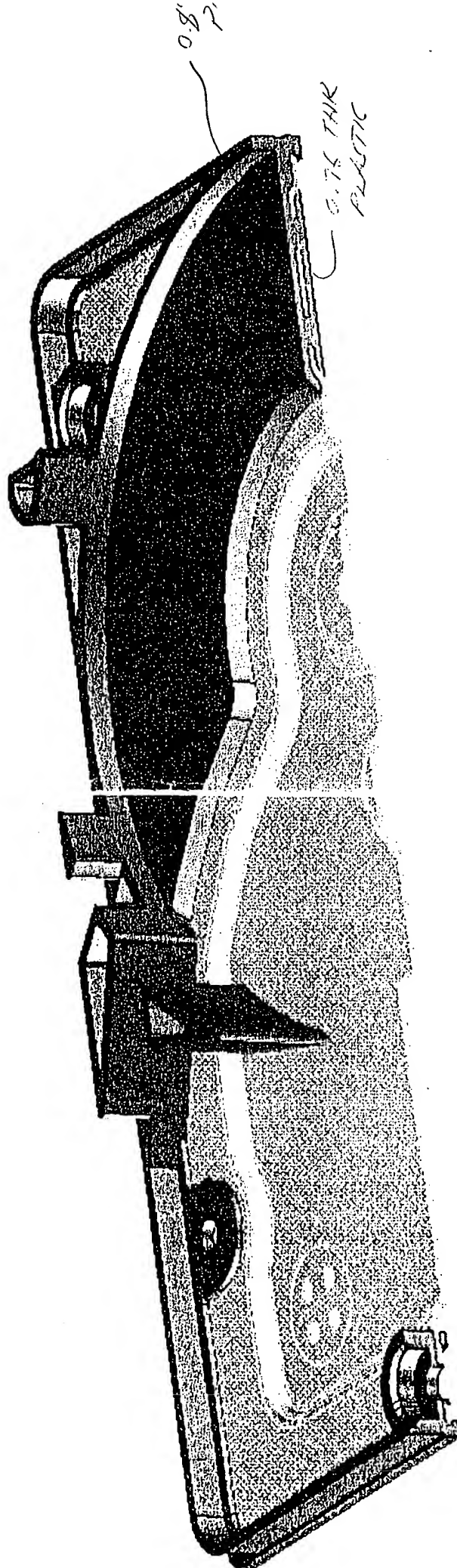


EXHIBIT A

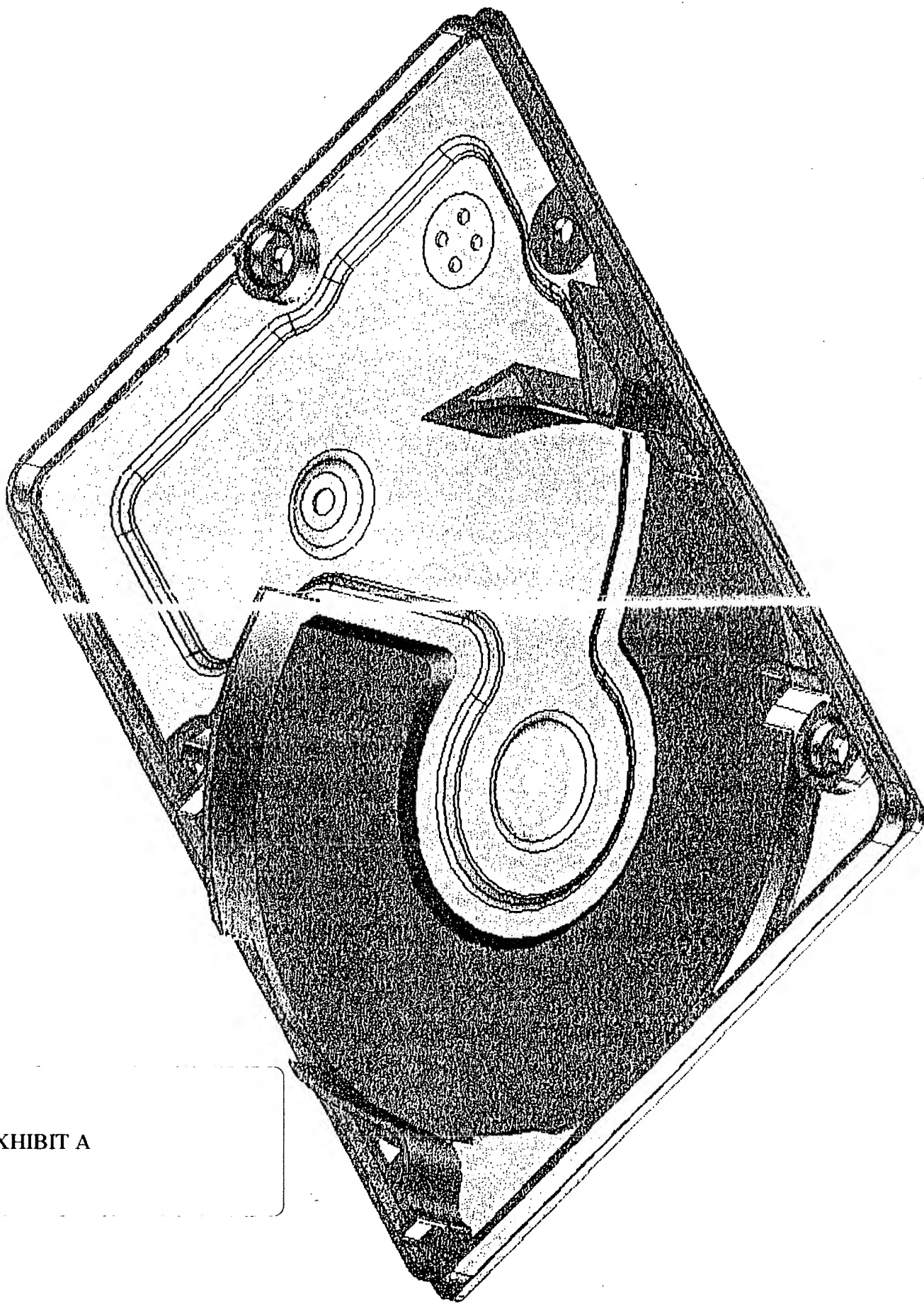


EXHIBIT A

EXHIBIT A

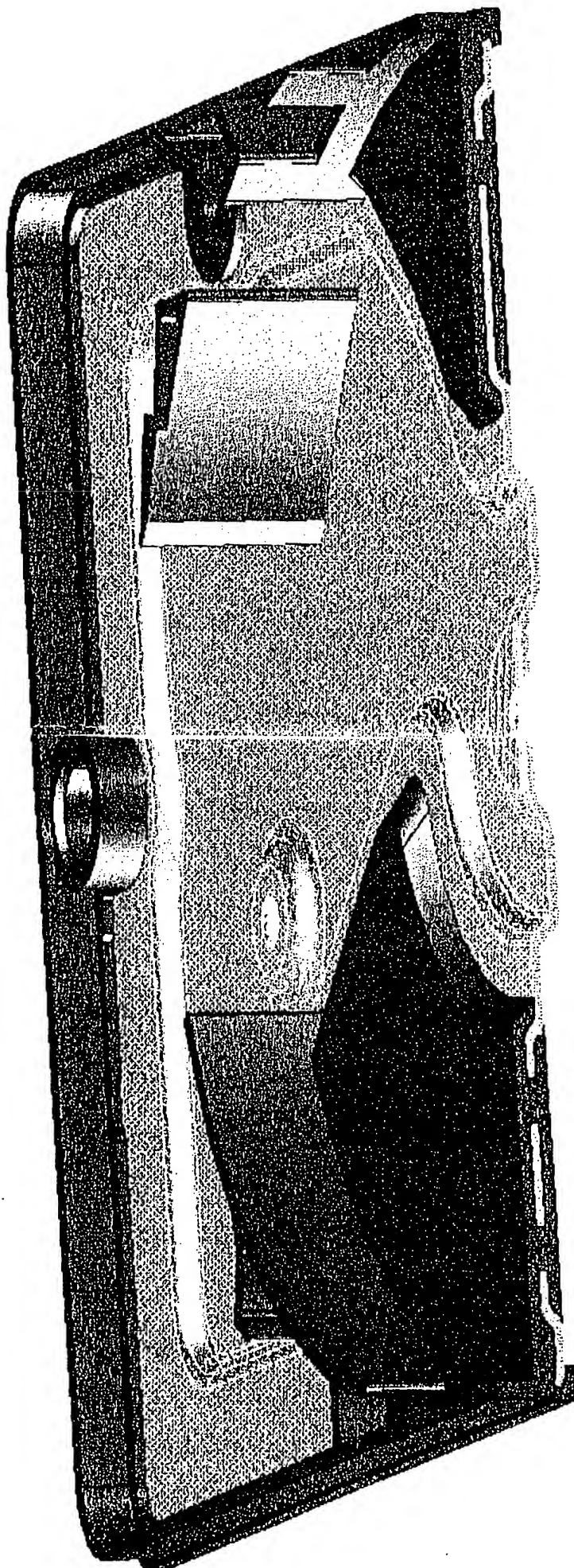
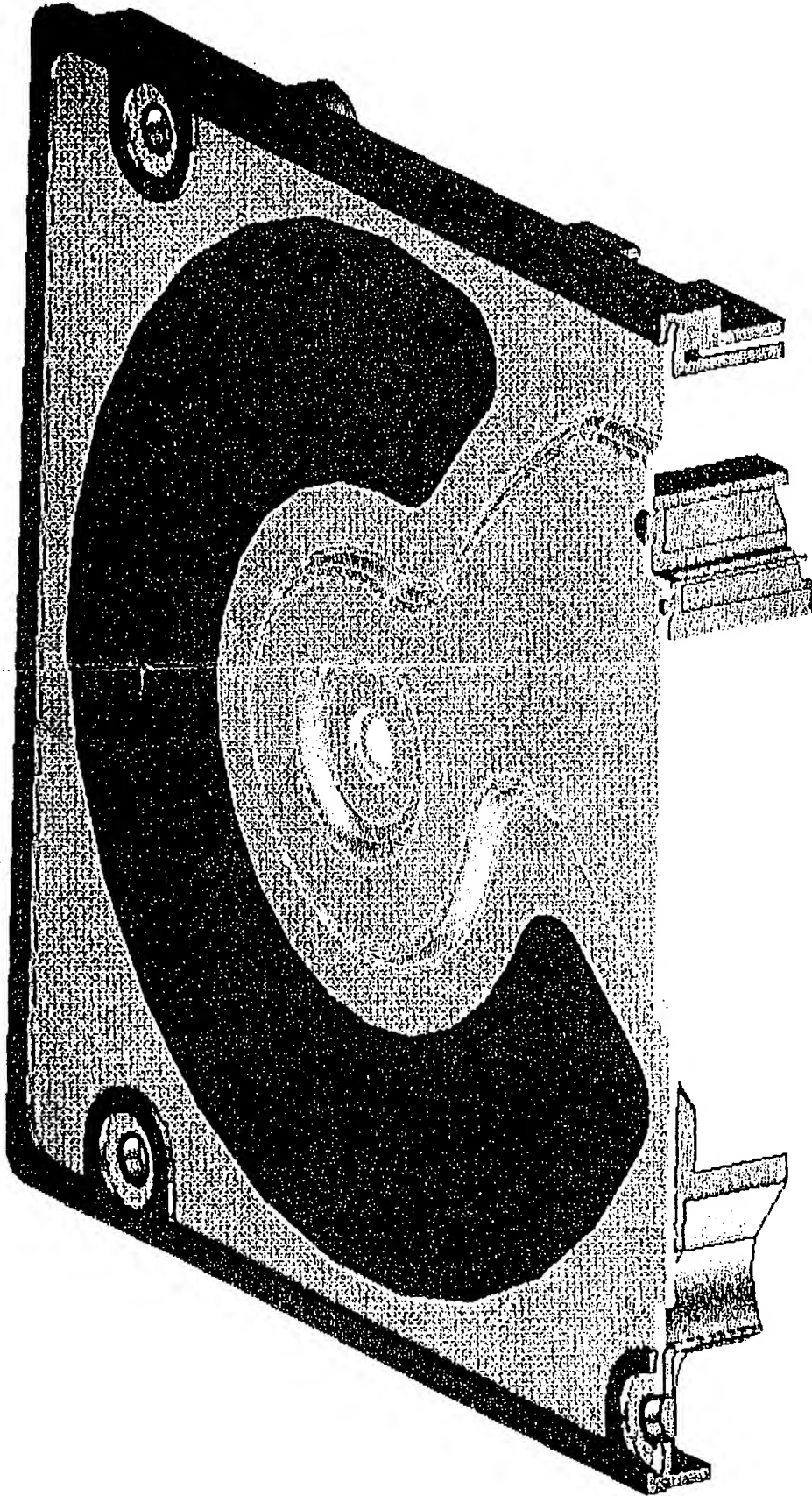


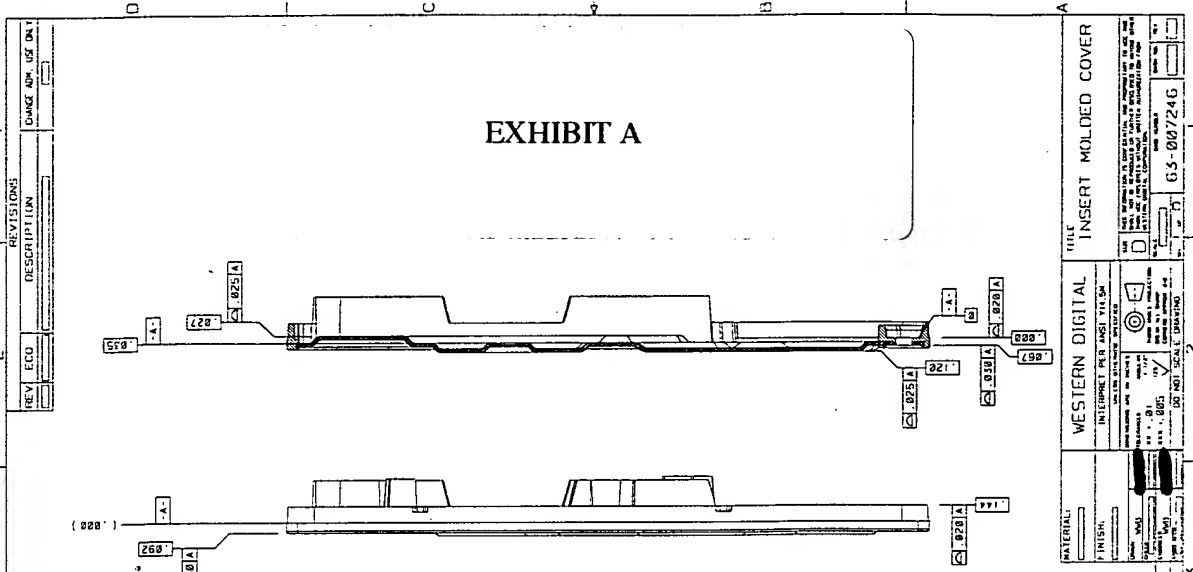


EXHIBIT A





cont

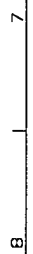


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- |                          |  |                              |                          |
|--------------------------|--|------------------------------|--------------------------|
| MATERIALS<br>2 PAGES     | WESTERN DIGITAL<br>(SEE COMPANY NAME) 1100 1100 1100 | TITLE<br>INSERT MOLDED COVER | DATE<br>6.5-00/24G       |
| ORDER NO. 1100 1100 1100 | ORDER NO. 1100 1100 1100                             | ORDER NO. 1100 1100 1100     | ORDER NO. 1100 1100 1100 |
| ORDER NO. 1100 1100 1100 | ORDER NO. 1100 1100 1100                             | ORDER NO. 1100 1100 1100     | ORDER NO. 1100 1100 1100 |
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TITLE		<div style="border: 1px solid black; height: 20px; width: 100px;"></div>	
DATE	THIS IS TO CERTIFY THAT THE FOLLOWING INFORMATION WAS RECEIVED FROM THE PERSONS WHOSE NAMES ARE LISTED HEREIN AND WHOSE NAMES ARE LISTED HEREIN HAVE BEEN RECEIVED FROM THE PERSONS WHOSE NAMES ARE LISTED HEREIN HAVE BEEN RECEIVED FROM THE PERSONS WHOSE NAMES ARE LISTED HEREIN	63-007246	10-10-63
DATE	10-10-63	63-007246	10-10-63



3.8 DATUM TARGET IS DEFINED AS THE ANNULAR REGION BOUNDED BY THE  $\phi .141$  AT THE ID AND  $\phi .230$  AT THE OD.

**3.9** DATUM TARGET IS DEFINED AS THE ANNULAR REGION BOUNDED BY THE  $\phi .141$  AT THE ID AND THE  $\phi .288$  AT THE OD.

3. (S) DATUM 'A' IS ESTABLISHED BY SUPPORTING THE PART AT EACH OF THE TOOLING POINT LOCATIONS AND APPLYING A 2 LBS MIN LOAD ACROSS THE PART AT EACH OF THE LOCATIONS. DATUM 'B' IS ESTABLISHED BY PIN DIAMETER REGARDLESS OF FEATURE SIZE. DATUM 'C' IS ESTABLISHED BY PIN DIAMETER SIZE IN CONTACT WITH SLOPE FLATS, AND IS REGARDLESS OF FEATURE SIZE.

3.11 FOR DRAFTS, BLENDS, CLEATING DETAILS, AND OMITTED CORING DETAILS  
REFER 7246-0PI.PKG SOLID MODEL.

3.12 ALL UNSPECIFIED DIMENSIONS ARE TAKEN AS NOMINAL  
SOLID MODEL. TOLERANCES FOR THESE FEATURES ARE  
FROM 7246-BPI.PKG  
A.0201A B C

3.13 ALL DIMENSIONS AND TOLERANCES APPLY WHEN PART IS IN CONSTRAINED CONDITION BY DATUMS -A-, -B-, & -C- AS DESCRIBED IN NOTE 3.10.

EXHIBIT B

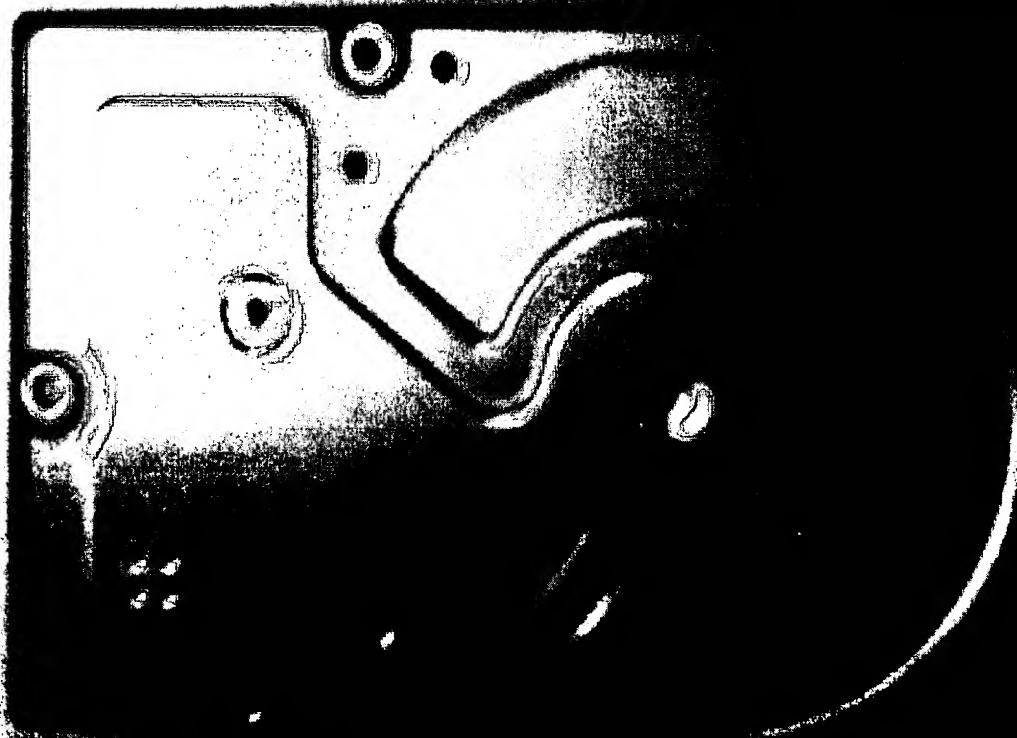
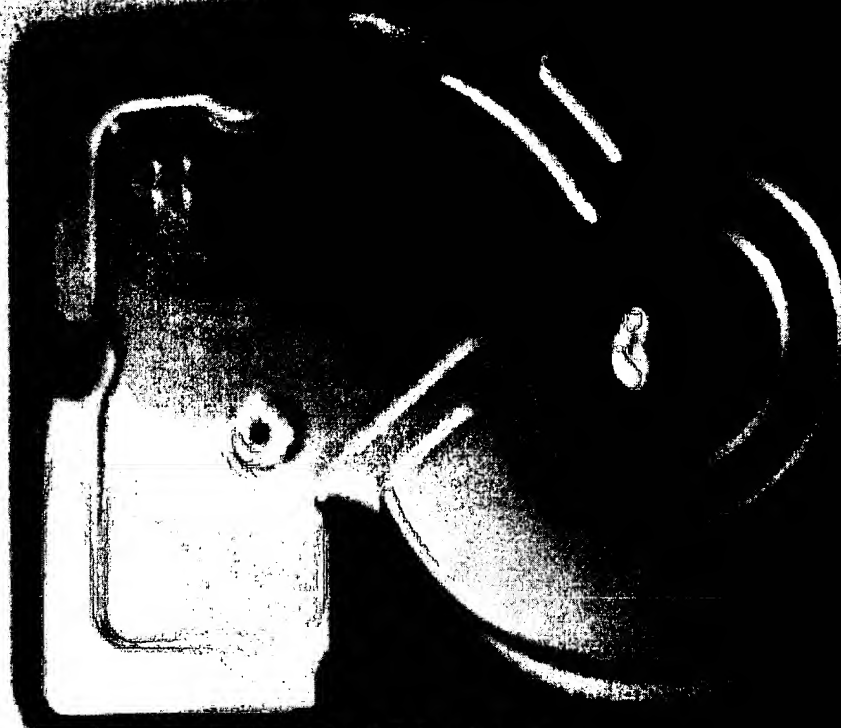
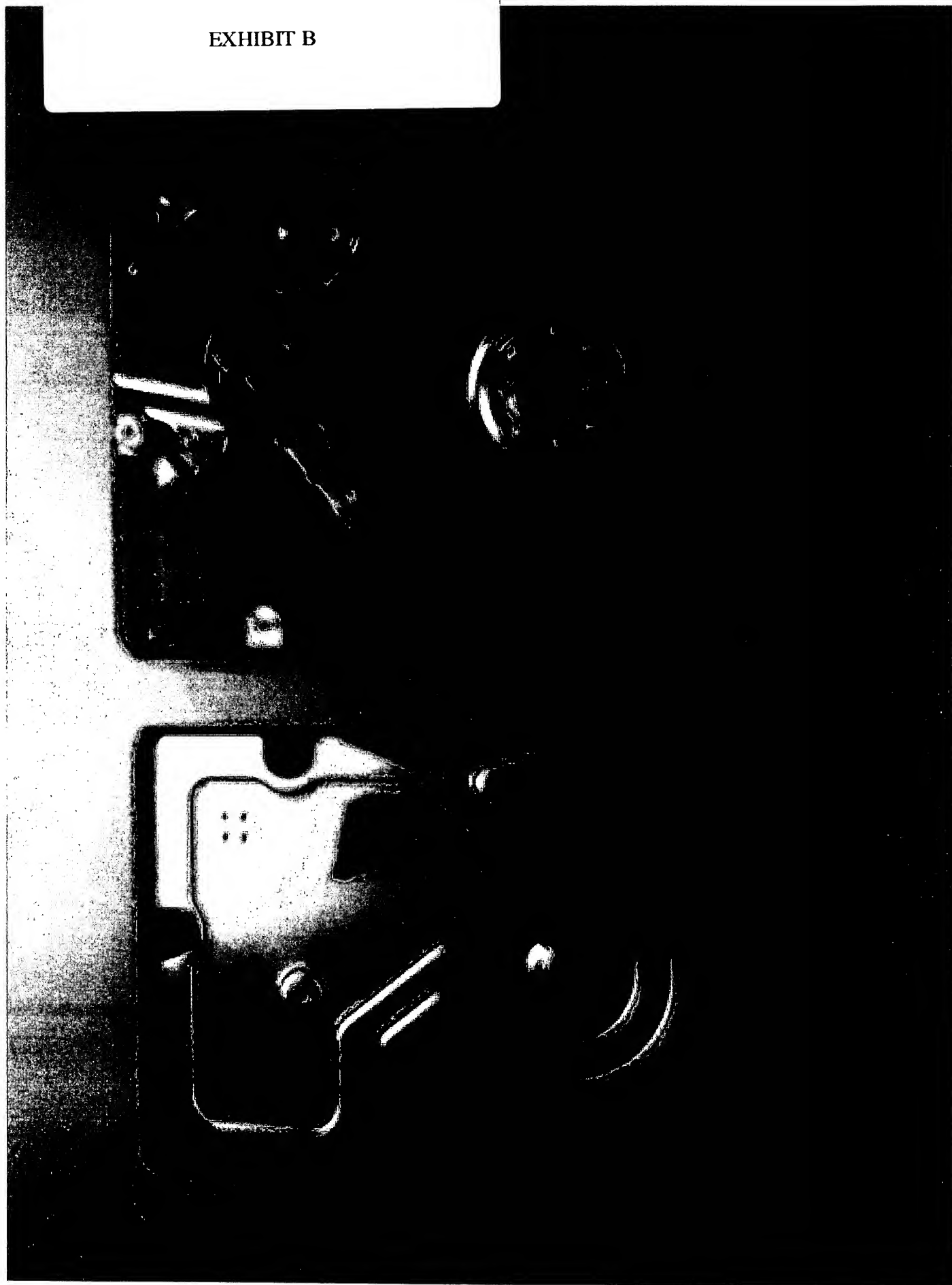


EXHIBIT B



## EXHIBIT C

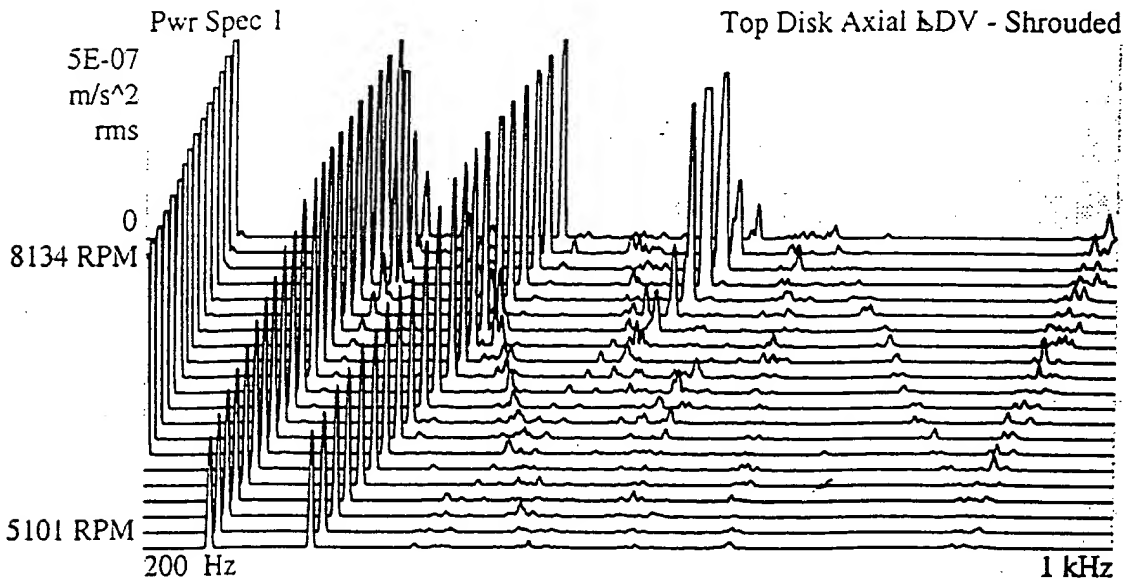
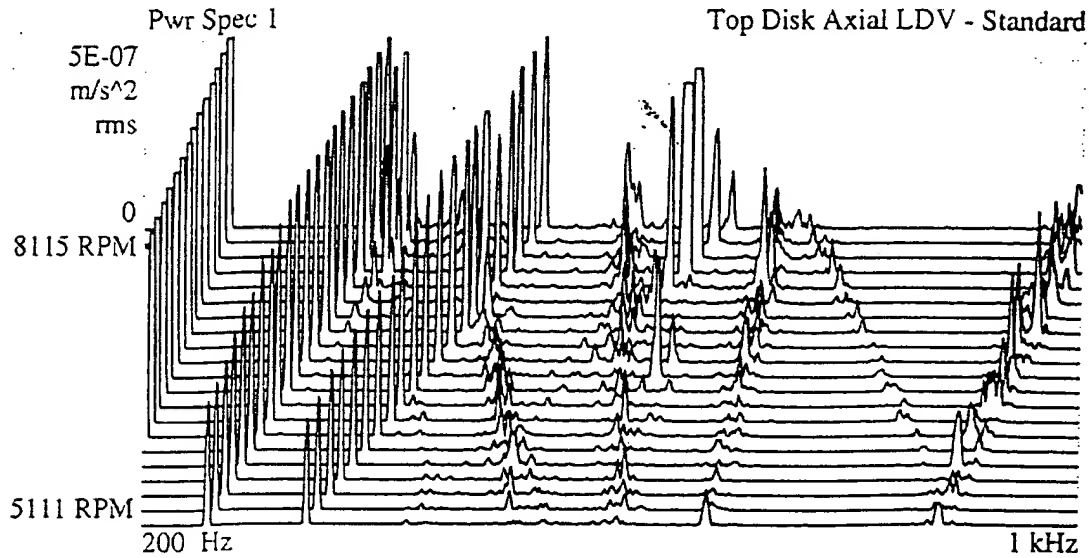
### Patent Disclosure to Western Digital Corporation

Title: Insert Molded HDA Top Cover Providing Radial & Axial Disk Shrouding

Authors: Walter Butler

#### Concept:

The waterfall plots are non-shrouded and shrouded axial disk modes.



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USED WITHOUT WESTERN DIGITAL'S PERMISSION.